

Claims

- Sub 1
1. An electrosurgical device comprising:
    - 2 an elongated body including a proximal end and a distal end and defining a longitudinal
    - 3 axis;
    - 4 at least one arm coupled to the distal end of the elongated body; and
    - 5 an electrode coupled to at least one arm, the electrode including an upper surface and a
    - 6 lower surface, the lower surface being substantially convex and defining a radius of curvature
    - 7 relative to an axis substantially perpendicular to the longitudinal axis.
  - 1 2. The device of claim 1 wherein the upper surface is smaller than the lower surface of the
  - 2 electrode.
  - 1 3. The device of claim 1 wherein the upper surface of the electrode is substantially concave.
  - 1 4. The device of claim 1 wherein the upper surface of the electrode is substantially flat.
  - 1 5. The device of claim 1 wherein the upper surface of the electrode includes an insulative
  - 2 coating.
  - 1 6. The device of claim 5 wherein the insulative coating comprises a ceramic coating.
  - 1 The device of claim 6 wherein the ceramic coating comprises alumina.
  - 1 8. The device of claim 6 wherein the ceramic coating comprises zirconia.
  - 1 9. The device of claim 6 wherein the ceramic coating comprises alumina and titania.
  - 1 10. The device of claim 6 wherein the ceramic coating has a thickness in the range from
  - 2 about 0.0002 inches to about 0.03 inches.
  - 1 11. The device of claim 1 wherein the lower surface of the electrode comprises a ceramic
  - 2 base material and a metallic coating disposed over the ceramic base material.

1 12. A method of manufacturing an electrosurgical device, comprising:

2 a) providing an electrode coupled to an elongated body, the electrode comprising a  
3 conductive member, the electrode including an upper surface and a lower surface, the lower  
4 surface being substantially convex and defining a radius of curvature relative to an axis  
5 substantially perpendicular to a longitudinal axis of the elongated body; and

6 b) spraying a ceramic coating over the upper surface of the electrode.

1 13. The method of claim 12 wherein step b) comprises thermal spraying.

1 14. The method of claim 13 wherein step b) comprises thermal spraying with an alumina  
2 coating.

1 15. The method of claim 13 wherein step b) comprises thermal spraying with an alumina and  
2 titania coating.

1 16. The method of claim 13 wherein step b) comprises thermal spraying using a high velocity  
2 oxygen fuel spraying method.

1 17. The method of claim 12 wherein step b) comprises plasma spraying.

1 18. The method of claim 13 further comprising roughening the upper surface of the electrode  
2 prior to thermal spraying.

1 19. The method of claim 12 wherein step b) comprises spraying to deposit the ceramic  
2 coating having a thickness in the range from 0.0002 inches to 0.03 inches.

1 20. The method of claim 18 wherein the roughening step comprises sand blasting the upper  
2 surface.

1 21. The method of claim 12 further comprising providing a bond coating on the conductive  
2 member prior to spraying.

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